PATENT CLAIMS

1. A method for screening a polynucleotide sequence encoding an antimicrobial polypeptide, said method comprising the steps of:
    - a) introducing the polynucleotide sequence in a host cell, wherein expression of said polynucleotide is under control of an inducible promoter and wherein said host cell is sensitive to the antimicrobial peptide encoded by the polynucleotide sequence
    - b) cultivating the host cells of in the absence of an inducer capable of inducing expression of the antimicrobial peptide
    - c) cultivating the host cells in the presence of an inducer capable of inducing expression of the antimicrobial peptide
    - d) cultivating the host cells in the presence of an indicator cell, wherein said indicator cell is sensitive to the antimicrobial polypeptide encoded by the polynucleotide sequence
    - e) selecting host cells capable of reducing the proliferation of indicator cells
    - f) recovering the polynucleotide sequence encoding an antimicrobial polypeptide from the host cells selected in step e).
2. A method according to claim 1, wherein step d) comprises cultivating the host cells in the presence of a library of indicator cells.
3. A method for screening a library of polynucleotide sequences encoding one or more antimicrobial polypeptide(s), comprising:
    - a) cultivating an indicator cell in the presence of the antimicrobial polypeptide(s), wherein the antimicrobial polypeptide(s) has/have been expressed by a host which is sensitive to said antimicrobial polypeptide(s), and wherein expression of each of the polynucleotide sequences in the library has been under control of an inducible promoter, and wherein the host cells comprising the library polynucleotide sequence has been cultivated in the absence of an inducer and subsequently in the presence of an inducer
    - b) selecting a host cell expressing an antimicrobial polypeptide which is capable of reducing the proliferation of the indicator cell.
4. A method according to claim 3, wherein a library of indicator cells are cultivated in the presence of the antimicrobial polypeptide(s).

5. A method for testing the antimicrobial activity of an antimicrobial polypeptide comprising step a) of claim 3.

6. A method according to claim 5, wherein a library of indicator cells are cultivated in the presence of the antimicrobial polypeptide.

7. A method according to claim 3, wherein the indicator cell is sensitive to one or more antimicrobial polypeptides.

8. A method according to claim 5, wherein the indicator cell is sensitive to the antimicrobial polypeptide.

9. A method according to any of claims 3-8, wherein said method further comprises the step of:

c) recovering the polynucleotide sequence encoding the antimicrobial polypeptide from the host cell.

10. A method according to claim 1, wherein the polynucleotide sequence comprises a library of polynucleotide sequences.

11. A method according to any of the preceding claims, wherein the antimicrobial polypeptide comprises disulfide bonds.

12. A method according to any of the preceding claims, wherein the antimicrobial polypeptide is expressed intracellularly in the periplasm or secreted by the host cell.

13. A method according to claim 12, wherein the antimicrobial polypeptide is expressed in the cytoplasm or in an intracellular compartment.

14. A method according to any of the preceding claims, wherein the host cell is a fungal cell.

15. A method according to claim 14, wherein the host cell is *Aspergillus* or yeast.

16. A method according to any of claims 1-14, wherein the host cell is a bacterial cell.

17. A method according to claim 16, wherein the host cell is a Gram-negative bacterial cell.

18. A method according to claim 17, wherein the host cell is *E.coli.*

19. A method according to claim 16, wherein the host cell is a Gram-positive bacterial cell.

20. A method according to claim 19, wherein the host cell is *Bacillus subtilis.*

21. A method according to any of the preceding claims, wherein the host cell harbours a mutation which alters the redox state of the host cell so that it allows disulfide bond formation.

22. A method according to claim 21, wherein the host cell harbours mutations in the thioredoxin reductase gene (*trxB*) and/or the glutathione reductase gene (*gor*).

23. A method according to any of the preceding claims, wherein the host cells are lysed after they have been induced to express the antimicrobial polypeptide.

24. A method according to claim 23, wherein the host cells are lysed with chloroform or a hot acid.

25. An antimicrobial polypeptide identified by a method of claim 1, 3 or 5.